Treatment & Research

Bipolar

happyneuron

Duration, Frequency, Intensity Meta-Analysis

This complied meta-analysis aims to identify structures necessary for maximizing the effectiveness of an adaptable cognitive training program for different disorders and diseases.

More specifically, we compiled the current research to answer these overarching questions:
- How much should someone train to significantly improve his/her cognitive profile?
- Is there an ideal regimen or approach to brain training that produces the optimal results?

Research has proven that brain training conducted in certain criteria may yield positive results for certain populations. As with any form of rehabilitation, cognitive training exercises' duration, frequency, and intensity should be determined based on appropriate diagnosis/assessment. These assessments and diagnoses should be completed by a trained professional with the individual functional needs of the individual in mind.

Disclosure:
This meta-analysis aims to create a place for clinicians to find the research connected with brain training easily. HappyNeuron is not claiming that participating in any form of brain training will result in higher functions, full recovery, or delayed disease onset. The information below is non-bias compliance of the evidence of computerized brain training to be used as a source reference or a supporting document for clinicians to use to help with the care of their clients. Some of this research uses our product, while others use other digital tools.

Bipolar

Bipolar disorder is a psychological disorder in which a person often experiences dramatic shifts in mood. People living with bipolar disorder will switch between manic or "up" emotional states and depressive or "down" emotional states. If someone experiences a manic episode of bipolar disorder, they may engage in risky behaviors which can be fatal. It has been shown that Bipolar Disorder has a direct negative impact on neurocognitive functioning and behavior.

Recent studies have been completed to investigate cognitive training programs as potential treatments for Bipolar Disorder. Overall, ***current research supports positive short-term outcomes for this patient population. Current studies show improvements in process speed, visual learning, memory, and emotional regulation of individuals who received cognitive remediation.*** Within the training groups, a significant improvement in cognitive performance after cognitive remediation was observed in Working Memory, Problem-Solving, and Divided Attention.

Research has also concluded that a combination treatment of Cognitive Remediation and Cognitive Behavior Therapy has the most positive impact on individuals with Bipolar, compared to Cognitive Remediation alone (Veeh, 2017).

Common Cognitive Deficits With Bipolar Disorder

Bipolar disorder can impact cognitive functioning, most often negatively influencing executive functioning, processing speed, memory, and motor skills. More specifically, patients with bipolar disorder may experience cognitive complications related to episodes of mania or depression. Cognitive problems experienced by patients diagnosed with bipolar disorder include difficulty planning, working memory problems, and language deficits. Cognitive remediation therapy provided by a licensed medical professional can assist with improving cognitive function before and after a patient has an episode of psychosis (Veeh, 2017).

Treatment Suggestions

From this research, we can conclude that a **minimum of 17 hours of intervention** should yield improvement in certain cognitive domains. **A span of 70 hours of intervention has shown the most statistically significant results.**

This can be broken down to one hour a day, 7 days a week, for 10 weeks. Other studies have shown increasingly positive results after engaging in cognitive training for 12 weeks.

Long-term considerations
To fully identify the possible implications of Cognitive Remediation for treating bipolar, larger randomized controlled trials are needed. We believe that more longitudinal studies of cognitive functioning in individuals, who are at high risk of Bipolar, is required so that we can provide a better understanding of the development and progression of cognitive impairment in BD. By studying longitudinal studies, we believe researchers and clinicians could create more targeted early intervention strategies to prevent or slow cognitive decline (Veeh, 2017).

Research Referenced

(Lewandoski et al.) The most robust evidence for the efficacy of cognitive remediation so far comes from this study where 75 randomized patients with BD with psychosis were assigned to a 70-h computerized cognitive remediation program versus a dose-matched computer control. Compared to the control intervention, patients who received cognitive remediation showed significant improvements in cognitive performance on measures of processing speed ($d = 0.42$), visual learning, and Memory ($d = 0.92$)

In another study of patients with bipolar (Gomes et al. 2019) developed an intervention called Cognitive Behavioural Rehabilitation by combining elements of Cognitive Behavioural Therapy and Cognitive Remediation. They compared it with treatment as usual, with time until the new episode as their primary outcome. They reported significantly improved reaction time, visual Memory, and emotional recognition in cognitive behavioral rehabilitation compared to treatment as usual.

Another RCT (Bernabei et al. 2020) suggested that cognitive remediation was superior to the control intervention in improving executive functioning, attention, Memory, and impulse control domains. Similarly, a more recently published single-blind RCT (Strawbridge et al. 2021) reported significant improvement in Working Memory and executive functioning as well as in psychosocial functioning and goal attainment in patients with BD who received cognitive remediation compared to treatment as usual.
In this study analyzed (J. Veeh), 39 patients with bipolar showed distinct cognitive impairments; 26 patients of them participated in a Cognitive Remediation program for 12 weeks and then were retested. A matched control group consisting of 13 BP was measured at baseline and follow-up after three months (treatment as usual).

References

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